

# **Weather Forecast Office NWS Spot Webpages - HYSPLIT Trajectories Request Function Product Description Document (PDD) September 11, 2013**

## **Part 1 - Mission Connection**

**a. Product Description** – The Weather Forecast Office (WFO) NWS Spot webpages provide a nationally uniform portal for NWS customers to request, receive, and leave feedback for site specific spot forecasts.

As of September 19, 2011, all WFO NWS Spot webpage hosted a new functionality for requesting HYSPLIT (Hybrid Single Particle Lagrangian Integrated Trajectory model) trajectory runs from NOAA's Air Resources Laboratory (ARL) on an experimental basis. Effective October 20, 2013 this functionality will become operational. Trajectory elements will be available based on the North American Mesoscale Model (NAM) for the CONUS and on the Global Forecast System (GFS) for Alaska and Hawaii.

The HYSPLIT Trajectories Request Function will allow users to request HYSPLIT trajectory runs at 500, 1500, and 3000 meters for the latitude/longitude of the spot request. The trajectory runs will begin at the specified ignition time on the spot request. To request HYSPLIT trajectories with a spot request, the user must enter the phrase ... "hysplit to requester email address" in the remarks section of the spot request form. The HYSPLIT trajectory raw data, as well as gif and kml files, will be sent to the specified email address.

The HYSPLIT Trajectory Function is dependent on ARL web servers. In the event that HYSPLIT trajectories are not received upon request from the NWS Spot webpage, customers may contact their local WFO to have trajectories manually run per the instructions below.

- Visit <https://www.hysplit.noaa.gov>
- Login in with NOAA email id
- Select Trajectory - *Run with current data*
- Number of Trajectory Starting Locations - *1*
- Type of Trajectory - *Normal*
- Meteorology - *NAM CONUS (48h fcst, 12 km, 3 hrly, pressure) or GFS for Alaska and Hawaii*
- Enter starting location
- Forward (default)

- Model vertical velocity (default)
- Total run time - 24 hours
- Start a new trajectory - 0 (default)
- Level 1 - *500 m, agl*
- Level 2 - *1500 m*
- Level 3 - *3000 m*
- Display options - leave as defaults
- The Results page has the Trajectory endpoints file, the gif, and kmz files.

**b. Purpose** – The HYSPLIT Trajectories Request Function of the WFO NWS Spot webpages is a core element in the design of the new spot request webpage currently under development. This feature directly addresses recommendations in the 2008 Science Advisory Board Report “Fire Weather Research: A Burning Agenda for NOAA”

**c. Audience** - The audience for HYSPLIT Trajectories Request Function of the WFO NWS Spot webpages includes users of weather decision support information including fire managers, emergency managers, and numerous local, state, and federal government agencies.

**d. Presentation Format** – The HYSPLIT trajectories will be emailed to the requestor as raw data in the body of the email, as well as two graphical attachments in gif and kml (for display in Google Earth) formats. WFOs can request a copy of these forecasts when one is requested in their area of responsibility by sending an email request to [virgil.middendorf@noaa.gov](mailto:virgil.middendorf@noaa.gov).

For more information regarding this experimental service, please contact:

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## **Part II – Technical Description**

**a. Format and Science** – The technical information about HYSPLIT trajectories is available at:  
[http://ready.arl.noaa.gov/HYSPLIT\\_trajinfo.php](http://ready.arl.noaa.gov/HYSPLIT_trajinfo.php)

**b. Product Availability** – The HYSPLIT trajectory data are available for request through the NWS Spot webpage interfaces. Data are emailed to the requestor in raw data format, and gif and kml graphical formats.

NWS Spot forecast requests are made by any of several of the normal methods (e.g., from Regional/WFO Fire Weather pages, telephone/facsimile, etc.)"

HYSPLIT trajectory data can also be requested directly from the NOAA Air Resources Laboratory (ARL) page at: [http://ready.arl.noaa.gov/HYSPLIT\\_email.php](http://ready.arl.noaa.gov/HYSPLIT_email.php)

**c. Additional Information** –

(1) NOAA ARL HYSPLIT webpage <http://ready.arl.noaa.gov/HYSPLIT.php>